

CLAIMS

1. A semiconductor memory card comprising a tamper resistant module and a nonvolatile memory, wherein

5 the tamper resistant module includes:

an internal memory having a usage area used by a program stored in the tamper resistant module; and

10 a processing unit operable to (i) assign an area in the nonvolatile memory to the program, and (ii) generate, on the internal memory of the tamper resistant module, access information for the assigned area, the usage area and the assigned area thereby composing a total area for use by the program.

2. A semiconductor memory card according to Claim 1, wherein

15 the internal memory stores a first area table indicating a location and a size of the usage area, and a second area table indicating a location and a size of the assigned area, and the access information is the second area table.

20 3. A semiconductor memory card according to Claim 1, wherein the processing unit comprises:

an assigning unit operable to assign, at a time of the generation of the access information, an encryption key which the program uses in accessing the assigned area;

25 an encrypting unit operable, at a time of the program writing data to the assigned area, to encrypt the data; and

a decrypting unit operable, at a time of the program reading data from the assigned area, to decrypt the data.

4. A semiconductor memory card according to Claim 3, wherein the processing unit further comprises:

a receiving unit operable to receive a security level from
5 the program; and

a storage unit that stores values for different security levels, bit lengths of an encryption key, and encryption methods, the bit lengths and encryption methods corresponding one-to-one to the values,

10 the encryption key assigned by the assigning unit is generated based on a bit length corresponding to the received security level, and

the encryption and decryption by the encrypting unit and decrypting unit, respectively, are performed based on an
15 encryption method corresponding to the received security level.

5. A semiconductor memory card according to Claim 1, wherein the internal memory stores a first area table indicating a location and a size of the usage area,

20 the nonvolatile memory stores a second area table indicating a location and a size of the assigned area, the second area table being encrypted using a predetermined encryption key, and

the access information is a set of the predetermined encryption key and information indicating a location of the second
25 area table.

6. A semiconductor memory card according to Claim 5, wherein the nonvolatile memory includes a first memory module and

a second memory module,

a unit of writing in the second memory module being smaller than a unit of writing in the first memory module, and the second memory module storing file management data.

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7. A semiconductor memory card according to Claim 6, wherein the second memory module is one of a Ferroelectric Random Access Memory and a Magnetoresistive Random Access Memory.

10 8. A semiconductor memory card according to Claim 5, wherein the internal memory of the tamper resistant module includes a first memory module and a second memory module,
a unit of writing in the second memory module being smaller than a unit of writing in the first memory module, and the second
15 memory module storing file management data.

9. A semiconductor memory card according to Claim 8, wherein the second memory module is one of a Ferroelectric Random Access Memory and a Magnetoresistive Random Access Memory.

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10. A semiconductor memory card according to Claim 1 being a multi-application memory card, wherein
the program is one of applications with which the memory card is compatible, and

25 the internal memory has a plurality of usage areas
corresponding one to one to the applications.

11. A semiconductor memory card according to Claim 10, wherein

at a time of addition of an application to the memory card, the processing unit assigns an area to be used by the added application.

5 12. A semiconductor memory card according to Claim 1, wherein the assigned area is a file system in which files are stored.

13. A semiconductor memory card according to Claim 1, wherein the tamper resistant module includes a CPU that executes
10 the program.

14. A semiconductor memory card according to Claim 1 including a host interface which is an interface with a device connected to the memory card, wherein
15 the host interface judges whether a command from the device is an expansion command, and
the program starts, if the command is judged to be the expansion command.

20 15. A semiconductor memory card that comprises a tamper resistant module and a nonvolatile memory, and includes a plurality of file systems, a secure level of each of the file systems being one of high, medium, and low, wherein
a first file system whose secure level is high is stored
25 in the tamper resistant module,

a second file system whose secure level is low is stored in the nonvolatile memory, and

a third file system whose secure level is medium is stored

in the nonvolatile memory, and access information for accessing the third file system is stored in the tamper resistant module.

16. A controlling program in a semiconductor memory card that
5 comprises a tamper resistant module and a nonvolatile memory, and that is executed by a CPU in the tamper resistant module, wherein

the tamper resistant module includes an internal memory having a usage area used by an application stored in the tamper
10 resistant module, and

the controlling program is operable to (i) assign an area in the nonvolatile memory to the application, and (ii) generate, on the internal memory of the tamper resistant module, access information for the assigned area, the usage area and the assigned
15 area thereby composing a total area for use by the application.